Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 (currently amended): A fiber optic rotary joint, comprising:

a housing defining an internal cavity adapted to be at least partially filled with a fluid having a variable index of refraction;

first and second optical collimation arrays disposed on opposite sides of ~~the~~ said internal cavity for transmitting optical signals therethrough parallel to an axis;

a reversion prism disposed within the internal cavity between said first and second optical collimation arrays, said reversion prism having opposite end faces intersected by said axis; and

~~an~~ interface optical elements having mating surfaces engaging said end faces ~~proximate at least one of said first and second optical collimation arrays and said reversion prism~~, each ~~said~~ interface optical element including an optically-flat surface facing into said chamber and arranged in a plane perpendicular to said axis ~~adapted to contact the fluid and further adapted to permit optical signals that are oriented normal to the optically flat surface to be transmitted between the fluid and said interface optical element~~; each interface optical element being so configured and arranged as to permit optical signals to be transmitted along said axis without being refracted by the variable index of refraction of said fluid.

2 (currently amended): A fiber optic rotary joint according to claim 1 ~~wherein said reversion prism extends longitudinally between opposed end surfaces and defines a longitudinal axis extending through the opposed end surfaces;~~ wherein each of said end faces is ~~said opposed end surfaces are~~ disposed at a nonorthogonal angle relative to ~~the longitudinal~~ said axis~~; wherein said interface optical element is disposed proximate a respective end surface of said reversion prism, and wherein the optically-flat surface of said interface optical element is orthogonal to the longitudinal axis~~.

3 (currently amended): A fiber optic rotary joint according to claim 2 wherein said interface optical elements are formed of a material having an index of refraction less than the index of refraction of said reversion prism ~~has an index of refraction that different from the index of refraction of said interface optical element~~.

4 (currently amended): A fiber optic rotary joint according to claim 1 wherein said collimator arrays are mounted for relative rotation about said axis ~~2 further comprising a second interface optical element disposed proximate the opposite end surface of said reversion prism~~.

5 (currently amended): A fiber optic rotary joint according to claim 4 wherein said reversion prism and said interface optical elements are mounted for rotation about said axis ~~1 wherein said first and second optical collimation arrays each comprise a plurality of collimator assemblies, wherein each collimator assembly comprising a collimating lens defining a collimation optical axis, and wherein~~

~~said interface optical element is disposed proximate the collimating lens such that the optically flat surface is orthogonal to the collimation optical axis~~.

6 (currently amended): A fiber optic rotary joint according to claim 5 wherein the rate of rotation of said reversion prism and said interface optical elements is half of the rate of rotation of said collimation arrays ~~each collimator assembly further comprises an index matching element disposed between said collimating lens and said interface optical element~~.

7 (currently amended): A reversion prism assembly, comprising:

a reversion prism having opposite end faces intersected by an axis ~~extending longitudinally between opposed end surfaces, said reversion prism defining a longitudinal axis extend through the opposed end surfaces, said opposed end surfaces~~, each of said end faces being disposed at a nonorthogonal angle relative to said ~~the longitudinal~~ axis; and

~~an~~ interface optical elements having mating surfaces engaging said end faces ~~disposed proximate a respective end surface of said reversion prism~~, each of said interface optical elements ~~including~~ having an optically-flat surface that is orthogonal to said ~~the longitudinal~~ axis.

8 (currently amended): A reversion prism assembly according to claim 7 wherein said reversion prism has an index of refraction that is greater than an index of refraction of said interface optical elements.

9 (currently amended): A reversion prism assembly according to claim 7 wherein said reversion prism is a trapezoidal ~~further comprising a second interface optical element disposed proximate the opposite end surface of said reversion~~ prism.

10 (currently amended): A reversion prism assembly according to claim 9 wherein each interface optical element is a triangular ~~7 wherein said interface optical element also includes a mating surface facing the respective end surface of said reversion prism, said mating surface also disposed at the same nonorthogonal angle relative to the longitudinal axis as the respective end surface of said reversion~~ prism.

11 (currently amended): A reversion prism assembly according to claim 7, and further comprising:

a housing defining an internal cavity in which said reversion prism and said interface optical elements are disposed,

wherein ~~the~~ said internal cavity is adapted to be at least partially filled with a fluid, and

wherein ~~such that~~ the optically-flat surface of ~~said~~ each interface optical element is exposed to ~~the~~ said fluid.

12 (currently amended): A reversion prism assembly according to claim 7 wherein said reversion prism comprises a trapezoidal prism, and wherein said interface optical element comprises a triangular prism adhered to ~~the~~ a respective end face ~~surface~~ of the trapezoidal prism.

13 (withdrawn): An optical collimation assembly comprising: an optical fiber; a collimating lens disposed in optical communication with said optical fiber, said collimating lens defining a collimation optical axis; and an interface optical element disposed proximate said collimating lens, said interface optical element including an optically flat surface that is orthogonal to the collimation optical axis.

14 (withdrawn): An optical collimation assembly according to claim 13 wherein said interface optical element comprises a plane-parallel plate.

15 (withdrawn): An optical collimation assembly according to claim 13 further comprising a sleeve in which said collimating lens and said interface optical element are disposed.

16 (withdrawn): An optical collimation assembly according to claim 15 further comprising an index matching element disposed within the sleeve between an end portion of said optical fiber and said collimating lens.

17 (withdrawn): An optical collimation assembly according to claim 15 further comprising an index matching element disposed within the sleeve between said collimating lens and said interface optical element.

18 (withdrawn): An optical collimation assembly according to claim 13 wherein said sleeve opens into a housing adapted to be at least partially filled with a fluid such that said interface optical element is exposed to the fluid.

19 (withdrawn): A method of aligning an optical collimation array comprising a plurality of collimation assemblies, each collimation assembly comprising a sleeve, a collimating lens disposed within the sleeve and an optical fiber having an end portion disposed within the sleeve, wherein the method comprises: inserting at least one elongate alignment pin into the optical collimation array such that each alignment pin extends lengthwise along a respective collimation assembly; adjusting at least one alignment pin to alter an angle between the respective alignment pin and a physical axis of the optical collimation array; and affixing the plurality of collimation assemblies in position following adjustment of the at least one alignment pin.

20 (withdrawn): A method according to claim 19 wherein adjusting the at least one alignment pin comprising adjusting the at least one alignment pin to be parallel with the physical axis of the optical collimation array.

21 (withdrawn): A method according to claim 19 further comprising removing the at least one alignment pin following adjustment of the at least one alignment pin.

22 (withdrawn): A method according to claim 21 wherein affixing the plurality of collimation assemblies comprises inserting at least one affixation pin into the optical collimation array in place

of the at least one alignment pin following removal of the at least one alignment pin, wherein each affixation pin is larger than the respective alignment pin.

23 (withdrawn): A method according to claim 19 wherein inserting at least one elongate alignment pin comprises inserting a plurality of alignment pins, and wherein adjusting the at least one alignment pin comprises twisting a pair of alignment pins that are spaced apart from one another.

24 (withdrawn): A method according to claim 19 wherein the optical collimation array further comprises an outer sleeve surrounding the plurality of collimation assemblies, and wherein inserting the at least one alignment pin comprises inserting the at least one alignment pin proximate the outer sleeve.